



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

APR 27 2001

REPLY TO THE ATTENTION OF

SE-5J

MEMORANDUM

SUBJECT: ACTION MEMORANDUM - Request for an Emergency Removal Action at the [nonresponsive] Bennett Avenue, Mercury House, Chicago, Cook County, Illinois. (Site ID #B5U3)

FROM: Walter F. Nied, On-Scene Coordinator
Keith J. Lesniak, Environmental Scientist
Emergency Response Branch - Section 2

EPA Region 5 Records Ctr.



237007

TO: Richard C. Karl, Chief
Emergency Response Branch

THRU: William J. Bolen, Chief
Response Section 2

I. PURPOSE

The purpose of this memorandum is to request and document your approval for \$69,200 and to confirm your verbal approval for \$25,000 in order to mitigate threats to public health, welfare, and the environment at the [nonresponsive] Bennett Avenue, Mercury House Site located in Chicago, Cook County, Illinois. The response action was necessary to mitigate the immediate threat to public health, welfare, and the environment posed by the release of metallic mercury into the [nonresponsive] Bennett Avenue, Mercury house (Site). The emergency response action was conducted pursuant to Section 104(a)(1) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. § 9604(a)(1), as amended, by locating, recovering, and cleaning up mercury spilled in the residential home interior. The response action included the off-site disposal of the mercury and mercury-contaminated media (clothing, furniture, etc.).

The Site required 5 on-site working days to complete. The removal action was considered an emergency due to the presence of metallic mercury in the basement storeroom and elevated mercury vapor levels throughout the house, which threatened the health and welfare of the occupants.

The [nonresponsive] Bennett Avenue, Mercury House Site is not on the National Priorities List (NPL).

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID #ILN000508144

A. Physical Location and Description

The [nonresponsive] Bennett Avenue Mercury House Site is located in Chicago, Cook County, Illinois. The Site coordinates are latitude [nonresponsive] and longitude [nonresponsive]
[redacted]

The environmental justice analysis reveals that the Site is located in Census Tract #4302, Block Group #1, with a population of 664 persons. Demographics for the residents in the this census group indicate 7.1% with low income, with 80.12% being of a minority status. In Illinois, the low-income percentage is 27% and the minority percentage is 25%. To meet the Environmental Justice (EJ) concern criteria, the area within 1 mile of the Site must have a population that is twice the low-income and/or twice the state minority percentage. That is, the area must be least 54% low-income and/or 50% minority. Therefore, the Site **does** meet the Region's EJ criteria based on demographics, as identified in "Region 5 Interim Guidelines for Identifying and Addressing a Potential EJ Case, June 1998".

B. Site Background

The family that owns and resides at the Site has two children and a pregnant mother. On December 29, 2000, the U. S. EPA Region 5 Emergency Response Branch was informed of a Mercury Spill in the basement of a private residence located on [nonresponsive] Bennett Avenue in Chicago, Cook County, Illinois. The original release was reportedly caused when a plumber was removing an after-market gas regulator. At this time, On-Scene Coordinator (OSC) Walter F. Nied and Environmental Scientist Keith J. Lesniak were dispatched to the incident and arrived at about 4:00 pm. Arriving at the site, OSC Nied arranged for Superfund Technical Assistance and Response Team (START) and Superior Special Services, Emergency and Rapid Response Services (ERRS), mobilized to the scene on December 29, 2000. After being dispatched to the Site, Environmental Scientist Keith J. Lesniak and START representative performed ambient air monitoring by using Lumex and Jerome meters. The ambient air monitoring revealed mercury vapor levels significantly in excess of the 1,000 nanograms/m³ action level. Levels were in excess of 23,000 nanograms/m³ near the source of the spill. After reviewing the air monitoring results, OSC Nied requested that the residents leave the home to live with relatives until the spill was remediated and vapor levels were under the health guidelines of 1,000 nanograms per cubic meter (nanograms/m³).

During the evening of December 29, 2000, at the direction of OSC Walter F. Nied, the ERRS contractor utilized a mercury vacuum to recover an estimated 4 ounces of elemental mercury which was spilled in a basement storeroom when the regulator was removed. Following vacuuming activities, the storeroom floor area was cleaned with a Hgx solution several times, then sealed with an epoxy-based sealer. A negative pressure blower was used to prevent the migration of vapors throughout the residence. At this time, Environmental Scientist Keith J. Lesniak and START performed periodic air monitoring throughout the home using both Lumex and Jerome mercury meters. Levels were monitored throughout the removal to determine the effectiveness of the clean-up activities. All clothes in the adjacent laundry room were bagged and had headspace screening performed. All materials and clothes with a headspace over the action level

of 10,000 nanogram/m³ were staged for disposal in one cubic yard shipping containers by the ERRS contractor. On February 6, 2001, Superior Special Services removed eight cubic yards of mercury contaminated waste for proper disposal.

On December 31, 2000, and January 2, 2001, ventilation continued to limit the migration of any lingering mercury vapors and prevented odors from entering the main living spaces of the residence. All ambient air levels within the house were well below the 1,000 nanogram/m³ level. Final air sampling was conducted by START on January 5, 2001, for final evaluation by the local Health Department, and the Agency for Toxic Substances and Disease Registry (ATSDR). Before returning home, the residents had blood samples taken by the local City Health Department, which were sent to ATSDR, in Atlanta, for evaluation.

III. THREATS TO PUBLIC HEALTH, WELFARE, OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

The conditions documented at the Site presented a release and a potential threat of release of a CERCLA hazardous substance, presenting an imminent and substantial endangerment to the public health, welfare, and the environment, and met the criteria for an emergency removal action provided for in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. § 300.415(b)(2). These criteria include:

- 1) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;

This factor was present at the Site due to the presence of metallic mercury and the associated vapor levels released at the site, posing a serious threat to human health and the environment through direct contact, ingestion and inhalation. Mercury vapor levels in the residence were elevated well above (1,000 times higher) the ATSDR recommended removal action level of 0.3 nanograms/m³. The potential also existed for the mercury to be tracked throughout the home, as well as to the outside and potentially to other residences, if it were not appropriately disposed. The residents left the home to live with relatives until the spill was remediated and vapor levels were under the health guidelines of 1,000 nanograms per cubic meter (nanograms/m³).

Mercury poses a toxic threat through inhalation, ingestion, and direct contact routes of exposure, and can result in severe nausea, vomiting, abdominal pain, bloody diarrhea, kidney and liver damage, and even death. Metallic mercury is highly toxic when inhaled, and attacks the central nervous system by destroying neurons.

Mercury is a characteristic waste under the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. § 6901 *et seq.*, as amended, and 40 CFR § 261.24. Mercury exhibits the characteristic of toxicity D009, and is therefore a hazardous substance under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

- 2) The availability of other appropriate federal or state response mechanisms to respond to the release.

The Illinois Environmental Protection Agency does not have the financial resources and expertise to conduct a residential cleanup.

IV. ENDANGERMENT DETERMINATION

Given the Site conditions, the nature of the hazardous substances on-site, and the potential exposure pathways described in Sections II and III above, actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response actions selected in this Action Memorandum, may have presented an imminent and substantial endangerment to public health, welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

The purpose of this emergency removal action was to mitigate the immediate threats posed to the public health, welfare, or the environment by the presence of the metallic mercury and the associated elevated mercury vapor levels. Removal activities at the Site included the recovery of all metallic mercury from the residence, the identification and disposal of all mercury-contaminated media (carpeting, clothing, etc.) and the off-site disposal of all characterized wastes identified and collected during removal activities. Specifically, the following actions were performed:

- 1) Developed and implemented a site-specific health and safety plan, including an air monitoring plan;
- 2) Developed and implemented a Site security plan, and provided relocation of the family;
- 3) Confirmed and characterized the extent of mercury contamination;
- 4) Removed and properly disposed of mercury-contaminated materials from the residence, as necessary;
- 5) Decontaminated affected building floors and walls, and conducted air confirmation sampling to verify that the residence had been decontaminated to acceptable levels; and
- 6) Transported and disposed of all hazardous substances, pollutants, wastes, or contaminants at a RCRA-approved disposal facility, in accordance with the U.S. EPA Off-Site Rule, 40 CFR § 300.440, 58 Federal Register 49215 (September 22, 1993); and

Removal activities required approximately 5 on-site working days to complete. The threat posed by the presence of metallic mercury and mercury vapor at the private residence met the criteria listed in § 300.415(b)(2) of the NCP, and the removal actions undertaken were consistent with any long-term remedial action which may be required.

The OSC has initiated planning for the provision of post-removal Site control, consistent with the provisions of § 300.415(l) of the NCP. The nature of this emergency removal action which entailed the complete removal of mercury and mercury-contaminated media from the Site, eliminated the need for any post-removal Site control.

The detailed cleanup contractor cost estimate is presented in Attachment 1 and estimated project costs are summarized below:

EXTRAMURAL COSTS:

Cleanup Contractor	\$30,000
Contingency (15%)	<u>4,500</u>
Subtotal	\$34,500
Total START	<u>15,000</u>
Extramural Subtotal	\$49,500
Extramural Contingency (20%)	<u>9,900</u>
TOTAL EXTRAMURAL COSTS	\$59,400

INTRAMURAL COSTS:

U.S. EPA Direct Costs [\$30 X (100 Regional Hours + 10 HQ Hours)]	\$ 3,300
U.S. EPA Indirect Costs (\$65 X 100 Regional Hours)	<u>\$ 6,500</u>
TOTAL INTRAMURAL COSTS	\$ 9,800
	=====
TOTAL REMOVAL PROJECT CEILING ESTIMATE	\$69,200

The response actions described in this memorandum directly addressed the actual or threatened releases of hazardous substances, pollutants, or contaminants at this Site, which may have posed an imminent and substantial endangerment to public health, welfare, or the environment. These response actions did not impose a burden on affected property disproportionate to the extent to which that property contributes to the conditions being addressed.

Applicable or Relevant and Appropriate Requirements

All applicable, relevant, and appropriate requirements (ARARs) were complied with to the extent practicable. Federal ARARs for this Site include RCRA. As the materials being dealt with were likely to be RCRA characteristic wastes, they were handled accordingly.

VI. CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED

Given the Site conditions, the nature of the hazardous substances documented on-site, and the potential exposure pathways to nearby populations described in Sections II and III above, actual or threatened release of hazardous substances from the Site, if not addressed by implementing the response actions selected in this Action Memorandum, would have presented an imminent and substantial endangerment to public health, welfare, or the environment.

VII. OUTSTANDING POLICY ISSUES

This removal action requires consideration of the nationally significant issue of cleanup of contaminants in residential interiors. This issue has been discussed with the Office of Solid Waste and Emergency Response Headquarters Staff, who concur that because residential mercury contamination can result in the release of mercury to the external environment, clean-up of these interiors is therefore appropriate.

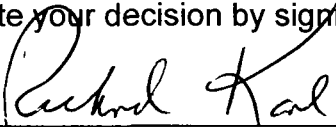
VIII. ENFORCEMENT

For administrative purposes, information concerning the enforcement strategy for this Site is contained in the Enforcement Confidential Addendum.

IX. RECOMMENDATION

This decision document represents the selected removal action for the nonresponsive Bennett Avenue, Mercury House Site, developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. This decision is based upon the Administrative Record for the Site (See Attachment 2). Because the conditions at the Site met the NCP § 300.415(b)(2) criteria for an emergency removal action, I recommend your approval of this removal action. The total project ceiling, if approved, will be \$69,200, of which, an estimated \$ 30,000 may be used for cleanup contractor costs. You may indicate your decision by signing below:

APPROVE: _____


Chief, Emergency Response Branch

DATE: _____

4.27.01

DISAPPROVE: _____

Chief, Emergency Response Branch

DATE: _____

Enforcement Addendum
Attachments

1. Detailed Cleanup Contractor Cost Estimate
2. Administrative Record Index
3. Region V EJ Analysis

cc: C. Beasley, U.S. EPA, 5202-G
M. Chezick, U.S. Department of the Interior, w/o Enf. Addendum
T. Skinner, Illinois EPA, w/o Enf. Addendum
S. Davis, Illinois DNR, w/o Enf. Addendum

BCC PAGE

BENNETT AVENUE MERCURY HOUSE SITE

HAS BEEN REDACTED
(1 PAGE)

ATTACHMENT 1

DETAILED CLEANUP CONTRACTOR ESTIMATE
nonresponsive Bennett Avenue MERCURY HOUSE SITE
Chicago, Cook County, Illinois.

The estimated cleanup contractor costs necessary to complete the removal action at the nonresponsive Bennett Avenue Mercury House Site are as follows:

Personnel	\$17,500
Equipment	\$ 5,000
Subcontractors	\$5,000
Materials	<u>\$ 2,500</u>
TOTAL	\$30,000

ATTACHMENT 2

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTIONADMINISTRATIVE RECORD
FOR
BENNETT AVENUE MERCURY HOUSE SITE
CHICAGO, ILLINOISORIGINAL
MARCH 6, 2001

<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
1	12/29/00	nonresponsive Chicago Resident	U.S. EPA	Signed Consent for U.S. EPA Access to the Bennett Avenue Mercury House Site	2
3	01/02/01	U.S. EPA	Distribution List	POLREP #1 for the Bennett Avenue Mercury House Site	5
2	02/06/01	Nied, W., U.S. EPA	WDNR	Uniform Hazardous Waste Manifest re: Disposal of Hazardous Material from the Bennett Avenue Mercury House Site	2
4	00/00/00	Nied, W. & K. Lesniak; U.S. EPA	Karl, R., U.S. EPA	Action Memorandum: Request for an Emergency Removal Action at the Bennett Avenue Mercury House Site (PENDING)	

ENFORCEMENT ADDENDUM

BENNETT AVENUE MERCURY HOUSE SITE
MARCH, 2001

HAS BEEN REDACTED
(1 PAGE)

NOT RELEVANT TO THE SELECTION OF THE REMOVAL ACTION

Region 5 Superfund EJ Analysis

Bennett Ave. Mercury Site

Chicago, IL



EJ Identification

Low Income and Minority Less than State Average

Low Income or Minority at or Greater than State Average

Low Income or Minority 2 Times or Greater than State Average
[meets Region 5 EJ Case criteria]

★ Site Location

— Block Group Boundary

Region 5 EJ Case Criteria for Illinois

Minority: 50% or greater

Low Income: 54% or greater

0 0.1 0.2 0.3 0.4 Miles



U.S. EPA Region 5
Superfund GIS



Date of Map: 1/18/01

Source of Map: 1990 Census Database